



# Ø BEAT

JULY 1985



COLORADO SPRINGS,  
COLORADO

FIFTY CENTS AN ISSUE / \$4 PER YEAR

Frank Drake - KL7IPV  
4964 Harvest Rd.,  
Colorado Springs, CO. 80917

**FIRST CLASS MAIL**



# Ø BEAT

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**ZERO BEAT** is published monthly in the interest of the the members of the Pikes Peak Radio Amateur Association Inc., Colorado Springs, Colorado. Cost is 50¢ per month for non-members or a \$4.00 per year subscription. Permission is given to reprint articles or excerpts provided credit is given. Deadline for submission of articles is the 21st of the month. Classifieds accepted anytime.

The Pikes Peak Radio Amateur Association meets on the second Wednesday of each month at Giuseppe's Depot Restaurant at 10 S. Sierra Madre at 7:30 p.m. All amateurs and interested parties are invited to attend.

Editor: Frank Drake KL7IPV, 4964 Harvest Rd. Colorado Springs, CO 80917 597-2406

## RAMBLINGS

### FCC APPROVES SPREAD-SPECTRUM

In response to spectral congestion and increasing demands from law enforcement agencies, the FCC has authorized limited use of spread-spectrum transmissions for these agencies and by the general public in the 900-MHz, 2.4-GHz, and 5.7-GHz bands. In addition, amateur experimentation with spread-spectrum techniques was approved on frequencies above 420 MHz. Law enforcement use of spread-spectrum is limited to frequency hopping at a maximum power output of 2 watts in the public land-mobile bands.

Amateur use may include frequency hopping and direct sequence modes with certain constraints. The new privileges (General Docket 81-414) will be delayed one year to allow development of operating standards. Special temporary authorizations are available now for experimentation purposes.

### IN MEMORIAM

Don Wallace, W6AM, passed away on May 25 at the age of 86. Don, one of the world's best known DXers and radio pioneers, established a truly awesome station on Palos Verdes Peninsula.

He started his career in 1912 as 6OC. During a tour of his station in 1978, I remember watching as Don fired up the mobile rig in his Lincoln Continental, turned on the kilowatt amplifier in his trunk, and proceeded to contact a station in South Africa. He was instrumental in educating members of the local city council about ham radio. He helped in the fight against restrictive antenna ordinances. He was a DXer extraordinaire. He will be greatly missed.

### AMATEUR SHUTTLE MISSION JULY 12TH

QST - Shuttle mission 51-F is scheduled to lift off on July 12th. Astronauts Tony England, WØORE, and John Bartoe, W4NY2, will attempt to make SSTV contacts with clubs and schools as early as the second half of day two. See page 44 of the July QST for the complete details. The prime downlink frequency will be 145.550 MHz.

For those of you would would like to listen in on the normal shuttle communications, here is the list of shuttle communications retransmissions:

NASA/Goddard ARC WAGNAN, Greenbelt,  
MD

3.860-MHz SSB (evening/night)  
7.185-MHz SSB (days)  
14.295-MHz SSB (continuous)  
21.390-MHz SSB (as available)

NASA/AIMS, San Francisco, CA

7.270-MHz SSB

(There are no local VHF frequencies  
for rebroadcast in this area as far  
as I know - ed.)

#### EXPANDED NOVICE PRIVILEGES PROPOSED

QST - At its May 18 meeting, the ARRL Executive Committee approved a plan developed by the headquarters staff to enhance on-the-air privileges of Novice class licensees. An essential part of the plan is to attract larger numbers of newcomers without destroying incentives to upgrade and without disrupting present activities of higher-class licensees. The ARRL Board has endorsed the plan by mail vote, authorizing the filing of a petition for rule making with the FCC.

The plan includes the following:

- 1) Reduction of the present 10 meter beacon area to permit that spectrum to be put to another use.
- 2) Expansion of the existing Novice/Technician band to permit CW, RTTY, AMTOR, and packet up to 1200 bauds at 28.1-28.3 MHz, and CW and SSB at 28.3-28.5 MHz at the present power limit of 200 watts.
- 3) Operation using all presently allowed modes at 220 MHz with a maximum power level of 25 watts. Novices would be permitted to operate through repeaters, but could not be licensees or control operators.
- 4) Privileges similar to those requested for 220 MHz, but for a segment of the 1240 MHz band. Power output would be limited to 5 watts.

5) Elimination of the rule limiting all licensees to Novice power levels in the Novice bands.

6) Expansion of the Novice written examination to include basic digital communication and voice operating techniques, and expansion of the Novice exam from 20 to 30 questions to cover the new material.

Please read "It Seems To Us..." in the July QST for more information on this proposal. Present Novice licensees would, of course, be grandfathered into the new modes and bands.

#### 24 MHZ ARRIVES!

HR - The 12-meter (24 MHz) band has been released to U.S. General, Advanced, and Extra class amateurs. The effective date was June 22, 1985. Full power (1500 W PEP) is permitted on the 24 MHz band (24.890-24.990 MHz). The subband, 24.890-24.930 is limited to CW and digital modes only. In the subband 24.930-24.990 MHz, CW, SSB, FAX, and SSTV is permitted.

#### NEW MODES ON 160

On April 25, 1985, the FCC released a Report and Order authorizing amateurs to use digital, FAX, SSTV, and narrow-band FM on 160 meters. The ARRL has volunteered to develop a band plan.

#### WOODLAND PARK HAMFEST

The Mountain Amateur Radio Club will be holding their annual swapfest/hamfest on July 13 and 14 at Red Rocks campground. This is located on Hwy 67 about five miles north of Woodland Park. Door prize tickets will be available for purchase at the meeting. Cost is a dollar per ticket or ten dollars for a book of twelve. See the notice elsewhere in this issue. Don't miss it.

## NEXT GENERAL MEETING

The next regularly scheduled meeting of the Pikes Peak Amateur Radio Association will be held on July 10, at 7:30 pm at Giuseppe's Depot at 10 S. Sierra St. The program will be given by Ken Wyatt, WA6TTY, who will present a shortened version of his course "How to Write a Magazine Article and Get it Published". Ken has written a number of articles for such magazines as Ham Radio, 73, Microcomputing, and Micro. He will cover the basic steps involved in getting yourself in print; from starting with an idea, writing the article, and finally to choosing a publication. Handouts will be available.

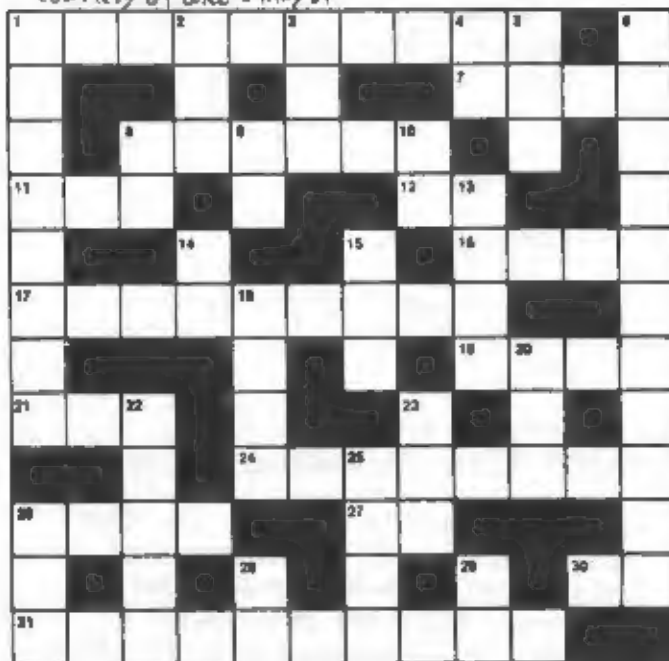
In addition, we will have our monthly drawing for door prizes. Bring a guest and come enjoy an evening with your ham friends. See you there.

## PIKES PEAK HILL CLIMB

The Pikes Peak Hill Climb will take place on Saturday July 13. By this time, the communications team members will have had their required training. All should be in readiness. It might be wise to bring an extra set of batteries for your handheld! Team members must be on the hill and in position by 0645 Saturday morning. Pick up location maps from Doc, W6MCT, the amateur communications coordinator, just past the entry station. He will be residing in his motor home. Last minute details will be available at the July general meeting. For further details or questions, please call Doc at 596-4216.

Overnight camping will be allowed Friday night for those participating in the race. This is the only time during the year in which camping on the peak is allowed.

courtesy of QRE - May 84



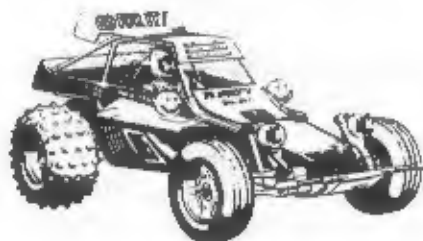
## CROSSWORD PUZZLE

"RADIOS YOU HAVE KNOWN"

- Across
- 1) Commercial-made boat anchor
  - 7) Crystal oven entrance
  - 8) Ham antenna maker killed by Citi boom
  - 11) Interference type (abbr.)
  - 12) Fellow ham (abbr.)
  - 16) Dry
  - 17) Kit brand formerly sold by Alesco
  - 18) Another kit maker
  - 21) Book publisher or bill
  - 24) Cornell
  - 25) KPe-land city Sen.
  - 27) Operator (abbr.)
  - 30) E-land state (abbr.)
  - 31) Nationwide electronics chain (2 words)

- 1) Last great kit seller
- 2) Month before Field Day
- 3) Former tube maker
- 4) E-land state (abbr.)
- 5) Canada's radio authority (abbr.)
- 6) Prototype surfaces
- 8) Telegraphic isugh
- 9) Northern Ireland prefix
- 10) Negative reply
- 13) Two connectors that join
- 14) E-U, 50-U
- 15) Telegraphic thank you
- 18) Stand by
- 20) Telegraphic query
- 22) Rig type
- 23) Grid meter
- 25) Take one rig and another
- 26) Slang for tube
- 28) Canada prefix
- 29) Current type (abbr.)

(ANSWERS PAGE 6)



PIKES PEAK HILL CLIMB!  
SATURDAY JULY 13

DON'T MISS IT...

## FIELD DAY 1985

Field Day this year was held out on Rampart Range Rd. The emphasis was on having a good time and not so much on competition (more FUN that way). The breakfast and dinner were well attended and all had a fine time.

Six stations were going at once much of the time. There were two HF phone stations, one HF CW station, the Novice station, VHF packet, and VHF phone (every once in a while). The call used was Mike's, KØTER. The point total has not yet been finalized.

There were at least 15 participants; plus others I'm afraid I may have missed. The list includes Les (KØØNC), Jody (KØØROZ), Renay (KØØROY), Jake (NØCYR), Ken (NØFRQ), Mark (NØEPF), Brad Freeden (unknown call), Bud (NØDDF), Harley (KØØTQ), Al (NØCMW), Roger (KØKRG), Mike (KØTER), Lucy Stansberry, Dave Shavey (KØHOA), and Don (WØØHWS). Thanks to Harley, Al, Roger, and Don for helping to set up the stations. Thanks also to Don (HWS) for hauling the trailer out there. Mark did a wonderful job operating the Novice station singlehanded! Thanks to non-member Dave Shavey and his friend who operated the packet station. Last of all, thank you Mike for arranging all the details! Extra special thanks to the cooks; Lucy, Jody, and Jake!

## COUNTY HUNTING

by Rod Jensen, K7MA. Most amateurs will agree that ham radio is many hobbies within a hobby; "Something for everyone" as the old saying goes. One facet of hamming that has grown steadily since its inception in 1960 is County Hunting. While some may label the activity as ridiculous, County Hunters find the challenge of working and QSLing all 3,075 U.S. counties the ultimate award. It proves operating skill, perserverance, and equipment efficiency, yet does not require anything more than an average rig and antenna.

County Hunters have their own awards program, nets, contests, QSL bureaus, conventions, and even their own column in CQ Magazine. Friendships among this group rival any in amateur radio.

Awards are issued by CQ Magazine for each 500 counties confirmed. A special plaque is given for all 3,075 (only 170 operators have reached the top so far). Endorsements can be obtained for almost anything (all CW, all 40 meters, all mobile, etc.). Totals may be accrued from more than one location, so that contacts from your mobile, vacation retreat, former QTH, or whatever, also count.

Sound interesting? Take a listen any day on 14.336 MHz for the Independent County Hunters Net (ICHN). It usually operates from the time the band opens to the time it closes. Only mobiles are "run", often from counties not normally active. In the evenings try 3.943 MHz (winter) or 7.243 MHz (summer). For CW enthusiasts, that net meets on 7.055 MHz Wednesdays at 2300Z and Sundays at 1430Z. On Saturdays it meets on 14.07 MHz at 1400Z and 2000Z. Contacts on these nets should be confirmed without cost to the mobiles. This means sending a "mobile reply card" (available from WØØOSV, K9EMV, K7LTV, or several other printers) with sufficient

**If it's CW, it's communications.**

832- ALL MAJOR BRANDS 832-  
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800 Lincoln St. Denver, CO 80203

postage for its return. W6CCM and WA2AEA operate QSL bureaus for the SSB nets; K1ZFQ for the CW nets.

If you operate mobile while traveling, try breaking the net. Even if you are not a County Hunter, you'll find everybody very friendly and they will treat you as rare DX, and not just another W6!

(Reprinted from Key-Klix)

### BEAM WIND RESISTANCE

by Marvin Mahre, W0MGI. The following information was published by Hi-Gain Electronics Corporation. After I returned from a three week vacation and found my 4-element tri-band beam, with a 2-meter stick above, bent over the side of the tower, maybe I should have read this item prior to leaving! Anyway, Hi-Gain says:

1) The best position is sideways to the wind. This allows the wind to see only the boom. It blows over the boom and creates a turbulence that has nothing to hit.

2) The worst position is cornerways into the wind. The wind sees the boom and all elements with turbulence hitting the second, third, etc., elements.

3) The next worst position is for the beam to point into or backwards to the wind. (Notice that Hi-Gain did not say "next to BEST position".)

The more elements in line, the more turbulence resistance.

In any event, I have a big repair job ahead of me. I understand a good number of towers and antennas went down during the two wind storms and maybe I was just lucky that the stick bent over instead of the whole installation crashing to the ground in a pile of scrap aluminum!

Reprinted from World Radio via SCATTER.

### ANSWERS TO CROSSWORD PUZZLE - PAGE 4



### MOUNTAIN AMATEUR RADIO CLUB

Wausau, Wis., Coll.

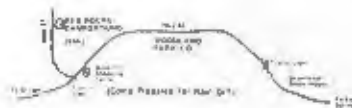
Saturday-Sunday  
July 13-14, 1985

CW  
Contest  
Saturday Night  
Awards!

Bring your own food or eat at the

Wausau, Wis., Coll.

See you there!



You may arrive to campout on Friday evening July 12th

\*\$10 To Camp Or Set Up both - No Double Charges

SHACKS AVAILABLE

Put Lunch Supper Saturday Night - All Included

Bring Your Own Beer - Put Lunch Drink - Beer - No Cash Available

IF YOU CAN'T SPEND THE WEEKEND

COME SPEND A DAY WITH US!



\$1000 In Door Prizes!

DRAWING 3 P.M. SUNDAY

1st Prize - \$500 730 HP

Quincy NARC

2nd Prize - Kenwood TH-21

Quincy NARC

3rd Prize - LD 644 Desk Micro

Quincy NARC

4th Prize - \$25.00 Certificate

Quincy NARC

Prizes will be drawn 7/14/85



The Board meeting of the Pikes Peak Radio Amateur Association was called to order June 17, 1985, at the home of Mark, NØEPF. Present were Mark; Ken, WA6TTY; Jim, WA9ABB; Frank, KL7IPV; Les, KCØNC; and Pete, NØLA.

Mark presented several bits of secretarial housekeeping.

It was moved and seconded to advance \$150 for Field Day food (with left over money to be returned to the treasury). The motion passes unanimously.

The program for July was confirmed as being given by Ken on article writing.

A discussion of the Volunteer Examiner program ensued. The club has moved to support the efforts of the volunteers to conduct exams in Colorado Springs. Pete brought up several items and we will work with him to make the exams a reality.

A discussion also occurred on the merits of a membership drive. No decisions were formulated but ideas and comments are welcome.

There being no further business before the board, the meeting adjourned at 8:30 pm. The next meeting will be July 15 or 16th. Some conflicts occur on the 15th and the full board will decide by the July 10th meeting. The place is tentatively set for Jim's home.

Respectfully submitted,  
Mark, NØEPF

The regular meeting of the Pikes Peak Radio Amateur Association was called to order 7:30 pm, June 12, 1985, at Giuseppe's Depot Restaurant. There were fifty-seven members and guests present.

The minutes of the previous meeting and board meeting were read and approved. Les, KCØNC, reported the treasury had an income of \$299.50 and expenses of \$409.45 leaving a current balance of \$2235.41.

No report was available from the interference committee due to lack of occurrences. Mike, KØTER, indicated plans are fairly firm for Field Day. The trailer will temporarily be moved to Ron Deutsch's for safekeeping. Pete, NØLA, indicated we may be able to keep it on his property rather than renting a storage space.

Plans for the Hill Climb are progressing. Fifty-four people are currently confirmed to help. Passes will be given for workers and one guest. It will apparently be an all day event on July 13th with workers needed on station at 0645 and remaining there until released after the race. Volunteers must also undergo a training session given by the sponsors of the Hill Climb. Al, NØCMW, has dates and times.

After the break and drawing, Oak, KØROL, presented videotapes of ham related activities. Shown were W5LFL's promotional "New Frontier" about the Space Shuttle. Also shown was an amateur radio promotional "This is Ham Radio" and a musical piece intitled "Dxbusters" which was not totally explained as to origination but was entertaining. Our thanks to Oak for his time and effort.

The meeting adjourned about 9:45 pm. The next meeting will be July 10th at Giuseppe's. Ken, WA6TTY, will speak on proper methods of writing magazine/newsletter articles.

Respectfully submitted,  
Mark, NØEPF

## HAMNET ON COMPUSEVERVE

by Ken Wyatt, WA6TTY

Attention computerists! Did you know that there was a national ham radio bulletin board system on the CompuServe computer network? It is called HAMNET and you can access it with your personal computer during the evening hours or anytime on weekends and holidays. CompuServe is a large time-shared computer network which anyone with a computer or terminal can use to access information on hundreds of subjects. In addition, there are a number of "Special Interest Groups" (SIGs) that are similar to a "mini" bulletin board system within the larger CompuServe system. HAMNET is one such SIG bulletin board.

HAMNET has several sections. There are some that will allow you to download computer programs and save them to your disk. There is a national conference channel where it is possible to "ragchew" via your computer to hams nationwide. There are several "database files" containing such things as "The ARRL Letter", "Gateway", "The W5YI Report", and "N6MG's DX News". In addition, there are several bulletin boards within HAMNET. These include topics such as ARRL, NEWS, SWL/Satellite TV, TRN & Freq Coord., AMSAT/OSCAR, DX, and Packet/RTTY/AMTOR.

It is possible to leave a message on these topics and usually within one or two days, you will get an answer! The messages are all sequentially numbered and the current number is up around 30,000. Every two weeks, the oldest messages are erased, thus keeping the last two weeks ONLY in the database! Quite often, some interesting conversations can be read!

In order to access CompuServe and HAMNET, you will need a personal computer, some kind of terminal software that allows downloading of

programs or information, a telephone modem, and a CompuServe account number. CompuServe sells a sign-up package which is available at Radio Shack or Target stores. This sells for about \$30. The current charges for CompuServe are \$6 per hour. Here in Colorado Springs, there is a local telephone access number, so there is no "surcharge" for the phone call.

It may seem unjustifiable to pay this much just to enjoy ham radio in another way, but consider some of the other services that are accessible through CompuServe. There are users groups for Apple, Commodore, Atari, and IBM. It is possible to access information on stocks and there is a discount buying service. There is an "electronic mall" with more than 100 "stores". You can order merchandise electronically via your computer. There are hundreds of computer programs that are downloadable. Plus of course, there are many games to play individually, or as a group (chess, etc.). This really could turn into another hobby if you aren't careful!

I have reprinted a sample session on HAMNET as just an example of how the system operates. Anyone with questions may call me for additional info.

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SPRAY**

**ARRL**

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In Southern Colorado

Howard W. Sams



**TAB BOOKS**



HAMNET SAMPLE

```
user id: 75665,1727
password:
```

compuserve information service

11:21 mdt sunday 30-jun-85

what's new this week:

- \* compuserve enhances service
- \* holiday rates and hours
- \* entrepreneurs' forum now live
- \* discover orlando free offers
- \* reviews of mao software
- \* pan am updates information
- \* new prices for emi aerodata
- \* radar map service adds charge

for more details, type go new  
from any prompt.

key s or <enter> to continue ! go hom-11

compuserve page hom-11

request recorded,  
one moment, please  
thank you for waiting

welcome to hamnet \*ham radio\*, v. 4a(41)

```
hello, ken wyatt!  
last visit: 25-jun-85 20:34:22
```

forum messages: 29772 to 30109  
last message you've read: 30019

no members are in conference.

short bulletin:

\*\*\* updated sunday, 06-30-85 \*\*\*

=== welcome back to hamnet ===

::: ham radio and more!!! :::

newsletters available in hamnet's data libraries:

name	latest file	dl
the arrl letter	al0627.85	dl 1
gateway (packet)	gw0626.85	dl 1
the w5yi report	yi0615.85	dl 2
n6mg's dx news	dx0621.85	dl 8

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forget to include your callsign in your name when you signed up for hamnet? if so, use the command <op;cn> to re-enter your name - including your callsign this time!

packeteers: you may be interested in two new files in the dl9 data library. filename east.map contains a packet radio map of the east coast of the united states. filename w3iwi.doc contains recent comments by tom clark on packet radio development in the mid-atlantic area. also, mark matthews describes a binary file transfer protocol for packet radio use in file proto.txt.

```
key <enter> for menu:
hamnet *ham radio*
```

function menu

- ```

1 (l) leave a message
2 (r) read messages
3 (co) conference mode
4 (dl) data library (former xa)
5 (b) bulletins
6 (v) view member directory
7 (ss) set sub-topic
8 (op) set user options
9 (i) instructions
0 (e) exit from hamnet *ham radio*

```

```
enter selection or h for help: 2
```

message sub-topics menu

- ```

0 the roundtable
1 arrl
2 news & w5yi report
3 swl / satellite tv
4 trn & freq coord.
5 amsat / oscar
6 programming library
7 guestop
8 dx
9 packet/rtty/amtcr
10
all read all sub-topics
t return to function menu

```

## GUEST EDITORIAL

Greetings! This month, I have the opportunity to take charge of Zero-Beat while Frank, KL7IPV, is out of town. I have taken the liberty of changing the format slightly to ease the chore of laying out the artwork. I also have the opportunity to editorialize somewhat.

PACKET RADIO - I would very much enjoy getting into packet radio, except for one thing; the initial cost of the Terminal Node Controller (TNC). I do not pretend to be an expert in this field, but I ask; Why has no one developed a software TNC for the Commodore 64? Why should I spend \$200 for a hardware TNC which includes a microprocessor, some I/O, some RAM, and EPROMs to store the firmware, when I already own a computer with the above components? Now I understand that I will still need a MODEM to create and decode the tones. This is not a problem. Such a device can be constructed in a weekend for less than \$30. I would not hesitate to spend another \$50 for the TNC software. Perhaps this software would also have RTTY, AMTOR, and CW capability built in. I think that 50 bucks would be a fair price.

Now the Radio Shack computers have this software available, so I know it can be done for the C-64. The Commodore 64 computer is the world's most popular computer. Commodore has sold over 2.5 million of these world wide. There are more C-64s than Apple, Radio Shack, and Atari computers combined. I would think that this would be a large enough market for some dedicated TNC software. If only 1 percent of the C-64 owners would be interested in this software, this would mean sales of 25,000 programs and a gross of \$125K. Again I ask; IS NO ONE working on TNC software for the C-64?

VECS IN COLORADO SPRINGS? - Yes indeed. We are fast moving toward a time when we might actually have to drive all the way to the SPRINGS in order to take our amateur radio tests. Now this is really a shame, don't you think? I mean, this is COLORADO! We shouldn't mind driving for an hour to better appreciate all this scenery. One of the prettiest sections of the state is the drive from here to Pueblo.

Seriously now, Extra class Peter LaFosse, and other VECs in the area have been pushing for this club to host quarterly test sessions here for quite a while now. During the last board meeting, Peter came out to brief us and after some discussion, the club agreed to sponsor these sessions. The VECs have agreed to run the tests if the club will arrange for a meeting place. This ought to be the least we should do I think.

THANKS - Thanks to all who made this newsletter happen. It took more work than I thought and if it wasn't for the help of Mike (KØTER), Frank (KL7IPV), Mark (NØEPF), Les (KCØNC), Larry (NØAMP), Jody (KAØROZ), and my wife Sheila (KA6RVJ), I would not have made it "to press".

In addition, a special thanks in advance to Doc Cornell (WØMCT), who is heading up the amateur communications team for the Pike's Peak Hill Climb. He has gone far beyond his normal volunteer duties in order to make this race a success.

WA6TTY...

*Kes*



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